

J.P. Morgan EMU Government ESG Liquid Bond Index

Index Methodology and Profile

Highlights

The J.P. Morgan EMU Government ESG Liquid Bond Index aims to track the performance of Eurozone eligible, fixed-rate euro-denominated domestic government debt. The index currently includes liquid government bonds issued by Austria, Belgium, Finland, France, Germany, Ireland, Italy, Netherlands, Portugal and Spain. The index applies an Environmental, Social and Governance (ESG) scoring methodology to tilt toward issuers ranked higher on ESG criteria, and underweight those that rank lower. The returns and statistics are available since January 2015.

Index Criteria

Minimum Issue Size	€1 billion
Instrument Type	Includes: Fixed-rate and zero-coupon bonds Excludes: Floating-rate bonds, capitalization/amortizing bonds, bonds with callable, puttable, or convertible features
Remaining Maturity:	> 6 months
Currency Denomination	Euro denominated
Credit Quality Classification	Austria, Belgium, Finland, France, Germany, Ireland, Italy, Netherlands, Portugal and Spain

Global Index Research

Index Research ^{AC}

Index.Research@jpmorgan.com
J.P. Morgan Securities LLC

Index Characteristics and Methodology

Pricing	Mid prices are taken from a third party pricing source, PricingDirect
Aggregate Return	Weighted average of bond returns using mid side prices
Rebalancing	Rebalances on the last weekday of the month. If FX rates from WM Reuters are unavailable on the last weekday of the month (e.g. Good Friday), indices are rebalanced on the previous business day.
Coupon Reinvestment	Immediately reinvested into the respective local market
FX Rates	All FX rates used for hedged/unhedged returns are as of 4pm London time provided by WM/Reuters
Hedging Strategy	Assume a 1-month currency forward position that begins on rebalance day and ends on next rebalance day
Weighting	Market cap based weighting, subject to adjustments based on JSTAR scores
Price Timing	As of the local market close
Settlement Convention	Local market country convention
Holiday Calendar	Local market calendar
Credit Rating	There is no credit rating criteria for the EMU Government ESG Liquid Bond Index

JSTAR Overlay Criteria

The J.P. Morgan EMU Government ESG Liquid Bond Index applies the J.P. Morgan JSTAR methodology as an overlay to the flagship J.P. Morgan EMU Government Index.

For details on the ESG providers, scoring methodology, green bond treatment and exclusions, please refer to the sovereign methodology detailed within the [J.P. Morgan Screened, Tilted and Reweighted \(JSTAR\) Methodology](#).

ESG Data Providers	Sustainalytics Verisk Maplecroft Climate Bonds Initiative
JSTAR Scoring Methodology	A simple average of each country's Verisk Maplecroft and Sustainalytics score is taken to produce the final JSTAR index score.
JSTAR Integration Methodology	The JSTAR index scores are divided into 10 bands that are used to scale each issue's baseline index market value. Please note that the 10 bands above are a custom version of the JSTAR 5 band approach, captured in the JSTAR rules and methodology.
Exclusions & Negative Screening	<ul style="list-style-type: none"> • Issuers with a JSTAR score less than 55 • Issuers classified as Not Free by Freedom House
Green Bond Treatment	If an instrument is categorized as a "green bond" by the Climate Bonds Initiative, the security will receive a one-band upgrade. Green bonds by issuers already in Band 1 will not receive any further upgrades. Furthermore, index composition allocates a 10% weight to green bonds.

Defining the universe of eligible countries

The J.P. Morgan EMU Government ESG Liquid Bond Index includes liquid, bullet, fixed-rate local debt issued by Western European governments where the euro is the official currency. The index currently includes government bonds issued by Austria, Belgium, Finland, France, Germany, Ireland, Italy, Netherlands, Portugal, and Spain. This index does not exclude countries based on credit ratings and therefore can potentially span both investment grade and sub-investment grade Eurozone government bond markets.

Instrument type

Only fixed-rate and zero coupon instruments are included. Floating-rate and capitalization, amortizing bonds or bonds with callable, puttable or convertible features are not part of the indices.

Liquidity

A key feature that distinguishes our indices from other index products is the strict enforcement of liquidity criteria in the selection of instruments. Yet, while the notion of liquidity differs from market to market, J.P. Morgan indices include only securities, subject to several considerations including but not limited to:

- *Pricing*: Bonds must trade with enough frequency to prevent stale price quotations.
- *Availability*: Bonds must be regularly traded in size at acceptable bid-offer spreads and readily redeemable for cash. A reasonable two-way market must exist for the instrument to be included in the index portfolio.
- *Replication costs*: Investors should be able to replicate the index without incurring excessive transaction costs.

ESG Methodology

The J.P. Morgan EMU Government ESG Liquid Bond Index applies the J.P. Morgan ESG (JESG) issuer scores to adjust the weights of index constituents from the respective baseline indices.

If a country is classified as Not Free by Freedom House, it will be excluded from the index.

JESG Score Bands	Scaler
Band 1: 85 < Score <= 100	1.0
Band 2: 75 < Score <= 85	0.6
Band 3: 65 < Score <= 75	0.2
Band 4: 55 < Score <= 65	0.1
Band 5: 45 < Score <= 55	0.0
Band 6: 35 < Score <= 45	0.0
Band 7: 25 < Score <= 35	0.0
Band 8: 15 < Score <= 25	0.0
Band 9: 5 < Score <= 15	0.0
Band 10: 0 < Score <= 5	0.0

Prior to January 2026 the Index's JESG score bands reflected an alternative scalar as shown below.

JESG Score Bands	Scaler
Band 1: 90 < Score <= 100	1.0
Band 2: 80 < Score <= 90	0.6
Band 3: 70 < Score <= 80	0.2
Band 4: 60 < Score <= 70	0.1
Band 5: 50 < Score <= 60	0.0
Band 6: 40 < Score <= 50	0.0
Band 7: 30 < Score <= 40	0.0
Band 8: 20 < Score <= 30	0.0
Band 9: 10 < Score <= 20	0.0
Band 10: 0 < Score <= 10	0.0

Prior to October 2023 the Index's JESG score bands reflected an alternative scalar as shown below.

JESG Score Bands	Scaler
Band 1: 90 < Score <= 100	1.0
Band 2: 80 < Score <= 90	0.6
Band 3: 70 < Score <= 80	0.2
Band 4: 60 < Score <= 70	0.0
Band 5: 50 < Score <= 60	0.0
Band 6: 40 < Score <= 50	0.0
Band 7: 30 < Score <= 40	0.0
Band 8: 20 < Score <= 30	0.0
Band 9: 10 < Score <= 20	0.0
Band 10: 0 < Score <= 10	0.0

Prior to August 2022 the Index's JESG score bands reflected an alternative scalar as shown below and did not include a 10% weight allocation for green bond.

JESG Score Bands	Scaler
Band 1: 90 < Score <= 100	1.0
Band 2: 80 < Score <= 90	0.9
Band 3: 70 < Score <= 80	0.8
Band 4: 60 < Score <= 70	0.7
Band 5: 50 < Score <= 60	0.6
Band 6: 40 < Score <= 50	0.5
Band 7: 30 < Score <= 40	0.4
Band 8: 20 < Score <= 30	0.3
Band 9: 10 < Score <= 20	0.2
Band 10: 0 < Score <= 10	0.1

Bond Calculations

Calculations are according to market convention: all calculations including accrued interest, duration, yield, etc., are done according to local market convention using parameters (ex-dividend rules, settlement conventions, etc.) relevant to each specific bond. All calculations are gross of tax and ignore transactions costs.

Bond pricing: Pricing for our underlying instruments is provided on a daily basis from Pricing Direct, a third party valuation vendor. In the event the primary source for pricing is unable to provide a quote, the Index Group reserves the right to consider the use of an appropriate alternative source for index inputs. Please see <http://www.pricingdirect.com> for further details.

Ex-dividend rules: ex-dividend rules, when applicable, are incorporated into accrued interest calculations, as appropriate, by country. Ex-dividend rules define the last day a bondholder must own a bond in order to receive that bond's next coupon payment, otherwise known as the ex-dividend date.

- During the period between the ex-dividend date and the coupon date, the bond trades "ex-dividend"
- An investor who purchases a bond for settlement between the ex-dividend date and coupon date will not receive that bond's next coupon payment
- During this period, according to market convention, accrued interest becomes negative resulting in a total price at a discount to the clean price and in effect, compensating the investor for the time the bond will be held without interest
- On coupon date, interest will start to accrue for the subsequent coupon payment

Returns and return indices: return indices on individual bonds are calculated on a daily basis and measure bond performance over time:

- Principal return index is based on changes in clean price
- Interest return index is based on changes in accrued interest
- Total return index is based on changes in both clean price and accrued interest

At the individual bond level focus is on total return. The segregation of interest and principal return becomes relevant at the portfolio level.

Reinvestment of coupons: the J.P. Morgan indices are always fully invested. All coupons received are immediately reinvested back into the local market.

Interest accruals: interest is accrued starting from the bond's dated date up to the first coupon value date. Accrued interest is calculated according to market convention, on a settlement day basis. Interest is accrued by value or settlement date. Weekly, seven days of interest are accrued, including the weekend.

In markets with ex-dividend rules, if a bond is purchased after the ex-dividend date the purchaser will not receive the bond's next coupon. In order to compensate the buyer of the bond, the price paid for the bond must be less than the clean market price, thus, accrued interest will be negative.

Coupon value date: The coupon value date is the trade date associated with settlement on coupon date (the day the coupon is paid). Thus, the coupon value date is the last trade date which an investor may purchase a bond and have that bond settle prior to payment of the subsequent coupon. On coupon value date, accrued interest resets to zero, and accruals begin towards the next coupon.

Yield: effective annual rate of return, expressed as a percentage. Yields are all calculated as yield-to-maturity, which is the discount rate where the present value of future payments equals the price of the security.

Index Calculations

Bloomberg Ticker <JPEIEGEU>

The base for the index level is: January 1, 2015 = 100.

The index rebalances on the last weekday of each month. Bonds comprising the indices are required to have more than 13 months remaining to maturity on rebalance day for inclusion in the index.

If FX rates from WM Reuters are unavailable on the last weekday of the month (e.g. Good Friday), indices are rebalanced on the previous business day.

The index is weighted by the component countries' aggregate normalized market capitalization (dirty price times par outstanding). These weights are then scaled based on the issuer's JSTAR score, as described above. The weights change monthly on each rebalance day, and those weights remain active for the remainder of that month.

Accrued interest is assigned to the bonds in the index according to the specific convention of each country's market, and this interest is settlement adjusted.

Daily indicative pricing for each security and FX rate is closely scrutinized and are reconciled using market movements and other pricing sources as guidance. As necessary, an established alternate source will be used to maintain the integrity of daily index calculations. On any given calculation day, if the primary source is unable to provide a quote, the Index Group reserves the right to consider the use of an appropriate alternate source for index inputs, such as pricing and FX. If a permanent switch for the primary third party pricing source is necessary, clients will be notified in advance prior to any official switch.

For any questions or for additional information, please contact index.research@jpmorgan.com.

Global Index Research: www.jpmorganmarkets.com

Disclosures

General

This material has been prepared by personnel in J.P. Morgan's Global Index Research Group and is provided for informational purposes only. For further information regarding the Global Index Research Group products ("Indices"), please refer to: <https://www.jpmorgan.com/insights/research/index-research>. This material is for distribution to institutional and professional clients only and is not intended for retail customer use. It is provided on a confidential basis and may not be reproduced, redistributed or disseminated, in whole or in part, without the prior written consent of J.P. Morgan. Any unauthorized use is strictly prohibited.

Unless otherwise specifically stated, any views or opinions expressed herein are solely those of the individual author from which it originates and may differ from the views or opinions expressed by other areas of J.P. Morgan.

J.P. Morgan is a marketing name for the investment banking and markets businesses of JPMorgan Chase & Co. and its subsidiaries worldwide. Securities, markets and research activities are conducted through a combination of J.P. Morgan Securities LLC, J.P. Morgan Securities plc and the appropriately licensed subsidiaries of JPMorgan Chase & Co. in EMEA and Asia-Pacific. J.P. Morgan Global Index Research Group personnel may be employees of any of the foregoing entities.

The Indices are the exclusive property of J.P. Morgan Securities LLC as administrator of the Indices (the "Index Administrator"), and the Index Administrator retains all property rights therein. In such capacity, the Index Administrator does not sponsor, endorse or otherwise promote any security or financial product or transaction referencing any Indices.

The products and services referenced herein may not be suitable for all clients and are subject to change at any time without notice. This material is not intended as an offer or solicitation for the purchase or sale of any financial instrument. The information in this material has been obtained from sources believed to be reliable, but J.P. Morgan does not warrant its completeness or accuracy. Any modelling scenario analysis or other forward-looking information herein is intended to illustrate hypothetical results based on certain assumptions, information and/or financial data (not all of which will be specified herein). J.P. Morgan does not guarantee expressly or impliedly the accuracy or completeness of any information and/or financial data used. Further, the information and/or financial data used by J.P. Morgan may not be representative of all information and/or financial data available to J.P. Morgan. The information and/or financial data available herein may change at any time without notice to you. Actual events or conditions may differ materially from those assumed; therefore, actual results are not guaranteed. All market prices, data and other information (including that which may be derived from third party sources believed to be reliable) are not warranted as to completeness or accuracy and are subject to change without notice. J.P. Morgan disclaims any responsibility or liability to the fullest extent permitted by applicable law, whether in contract, tort (including, without limitation, negligence), equity or otherwise, for any loss or damage arising from any reliance on or the use of this material in any way. The information contained herein is as of the date and time referenced only, and J.P. Morgan does not undertake any obligation to update such information. Past performance (including backtesting) is not indicative of future returns, which will vary. J.P. Morgan and/or its affiliates and employees may hold positions (long or short), effect transactions or act as market maker in the financial instruments of any issuer data contained herein or act as underwriter, placement agent, advisor, or lender to such issuer.

Nothing in this material should be construed as investment, tax, legal, accounting, regulatory or other advice or as creating a fiduciary relationship. If you deem it necessary, you must seek independent professional advice to ascertain the investment, legal, tax, accounting, regulatory or other consequences before investing or transacting.

To the extent this material includes any data on issuers or securities targeted by economic or financial sanctions imposed or administered by the governmental authorities of the U.S., EU, UK or other relevant jurisdictions (Sanctioned Securities), nothing herein is intended to be read or construed as encouraging, facilitating, promoting or otherwise approving investment or dealing in such Sanctioned Securities. Clients should be aware of their own legal and compliance obligations when making investment decisions.

The author(s) of this material may not be licensed to carry on regulated activities in your jurisdiction and, if not licensed, do not hold themselves out as being able to do so. This material is not an advertisement for or marketing of any issuer, its products or services, or its securities in any jurisdiction.

Product names, company names and logos mentioned herein are trademarks or registered trademarks of their respective owners.

Any long form nomenclature for references to China; Hong Kong; Taiwan; and Macau within this material are Mainland China; Hong Kong SAR (China); Taiwan (China); and Macau SAR (China).

ESG Data Integrity: Where an index administered by the Index Administrator pursues environmental, social or governance (ESG) objectives, the Index Administrator is, wholly or in part, reliant on public sources of information and other third party sources. Further, the ability of the Index Administrator to verify such objectives may be limited by the integrity, quality, and detail of the data available in respect of the underlying

constituents at the relevant point in time and the status and evolution of global laws, guidelines, regulations, and market practice in relation to the preparation, tracking and provision of such data. Therefore, such disclosures are made on a commercially reasonable efforts basis and are subject to change. In particular, new laws, guidelines or regulations may be introduced in relation to the methodology used to provide corporate ESG ratings which could impact the Index Administrator's ESG index score and the relevant screenings and exclusions and cause them to change. ESG data may be inconsistent across providers. The Index Administrator's ESG index score, relevant screenings and exclusions and related disclosures are also subject to change as a result of periodic reviews conducted by the Index Administrator in relation to the sources of ESG data. In calculating the index in line with the methodology articulated herein, the Index Administrator relies on the data provided by the ESG data providers. The Index Administrator does not independently source its own ESG data or exercise any discretion with respect to the substitution of third party ESG data. The integrity of the ESG data sourced from third parties is limited by the ability of those providers to source accurate data on the ESG performance of certain corporate structures, such as parent versus subsidiary, including SPVs, holding company versus operating company and the activities of any affiliated entities and derived structures. Further, ESG data pertaining to sovereign issuers is limited to the sourcing of ESG performance data at the level of the relevant country. The current data integrity landscape means it is not possible to screen all issuers for exclusion (e.g. issuers other than corporate and quasi-sovereign issuers). Issuers in respect of whom ESG data is limited may still be included in the index.

Legal entity responsible for the production and distribution of this material: The legal entity identified below the name of the author is the legal entity responsible for the production of this material. Where there are multiple authors with different legal entities identified below their names, these legal entities are jointly responsible for the production of this material. Authors from various J.P. Morgan affiliates may have contributed to the production of this material but may not be licensed to carry out regulated activities in your jurisdiction (and do not hold themselves out as being able to do so). Unless otherwise stated below, this material has been distributed by the legal entity responsible for production. If you have any queries, please contact the relevant Global Index Research Group personnel in your jurisdiction or the entity in your jurisdiction that has distributed this material.

Confidentiality and Security Notice: This transmission may contain information that is privileged, confidential, legally privileged, and/or exempt from disclosure under applicable law. If you are not the intended recipient, you are hereby notified that any disclosure, copying, distribution, or use of the information contained herein (including any reliance thereon) is STRICTLY PROHIBITED. Although this transmission and any attachments are believed to be free of any virus or other defect that might affect any computer system into which it is received and opened, it is the responsibility of the recipient to ensure that it is virus free and no responsibility is accepted by JPMorgan Chase & Co., its subsidiaries and affiliates, as applicable, for any loss or damage arising in any way from its use. If you received this transmission in error, please immediately contact the sender and destroy the material in its entirety, whether in electronic or hard copy format. This message is subject to electronic monitoring: <https://www.jpmorgan.com/disclosures/email>

Sustainalytics: Certain information, data, analyses and opinions contained herein are reproduced by permission of Sustainalytics and: (1) includes the proprietary information of Sustainalytics; (2) may not be copied or redistributed except as specifically authorized; (3) do not constitute investment advice nor an endorsement of any product or project; (4) are provided solely for informational purposes; and (5) are not warranted to be complete, accurate or timely. Sustainalytics is not responsible for any trading decisions, damages or other losses related to it or its use. The use of the data is subject to conditions available at <https://www.sustainalytics.com/legal-disclaimers>. ©2025 Sustainalytics. All Rights Reserved.

For full Global Index Research Group disclosures, please refer to: <https://www.jpmorgan.com/disclosures/girg>.

Copyright 2026 JPMorgan Chase & Co. All rights reserved. This material or any portion hereof may not be reprinted, sold or redistributed without the written consent of J.P. Morgan. It is strictly prohibited to use or share without prior written consent from J.P. Morgan any research material received from J.P. Morgan or an authorized third-party ("J.P. Morgan Data") in any third-party artificial intelligence ("AI") systems or models when such J.P. Morgan Data is accessible by a third-party.